# EXPEDITION

THE BU[illegible] THE UNIVERSITY MUSEUM
OF TH[illegible]SITY OF PENNSYLVANIA

*Fall* 1959

VOLUME 2 NUMBER 1

ONE DOLLAR

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*Tiwi Burial Poles:*
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# EXPEDITION

THE BULLETIN OF THE UNIVERSITY MUSEUM
OF THE UNIVERSITY OF PENNSYLVANIA

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EXPEDITION

Issued quarterly by the University Museum of the University of Pennsylvania, 33rd and Spruce Streets, Philadelphia 4. Copyright 1959. Subscription, $3.50 per year. Application to mail at second class postage rates is pending at Philadelphia. Printed by the University of Pennsylvania: Department of Publications, Forms, & Printing. EXPEDITION is indexed in the *Art Index*.

# The TIWI Dance for the Dead

*By* JANE C. GOODALE

*Photographs by the Author*

*From April through August 1954, the National Geographic Society sponsored an expedition to Melville Island, Australia, led by Mr. C. P. Mountford of Australia, to study the art, myth, and ceremony of the Tiwi. Miss Goodale accompanied Mr. Mountford to gather material for her Ph.D. dissertation on the Tiwi women and to make a collection of Tiwi objects for the University Museum. After the departure of the other members of the expedition, Miss Goodale remained on the island until December 1954 in order to complete her research. During the eight months she was there, she recorded four separate funeral ceremonies during which the Tiwi carved, painted, and set up around the graves, the unique grave poles described in this story.*

MAP BY A. ERIC PARKINSON

*Singing a song, the leader of the funeral ceremony stands high on one of the carved and painted poles, to give dramatic emphasis to his words, which will be acted out by dancers.*

On Wednesday, September 29, 1954, I walked down the hill to the native camp and along the dirt road leading past the new school, the kitchen, "Ali's" house, "Buffaloe's" store, and started up the opposite slope. A small black body came running towards me and flung herself into my arms. This was "Patricia" and it was her father I had come to see. Together we approached their little iron house and "Paddy" Nonolu rose to relieve me of my burden and laughingly repeated his offer first made some months ago, "More better you take her along America. She no like us anymore."

"You come to America with me, Patricia?" I asked the chubby-faced, curly-haired, two-year old, very dusty cherub. "Kwa" (yes), she replied. (This exchange was to go on until the last week of my stay on Melville Island when I got my final reply, "kalo" [no].)

"Paddy, I would love to take Patricia to America but I have come to see you today about another matter. You know I shall be leaving in a few months' time, and that the museum in America where I work has asked me to collect spears, baskets, pandanus arm bands, dance clubs, stone axes, and all the things which the Tiwi make, so that they can put them where Americans can see them. Now I think they would also like to see some of the funeral poles, but these are only made for a funeral and are put up around the grave to stay forever. I can't take them away from a grave. Do you think you could make me some little toy ones so that they could see what they are like?"

"You like more better big ones?" he asked.

"Of course," I said, "proper ones would be much better."

"Well, I get five, six boy. We make you proper big poles. You take them along America. By and by you maybe die. We make you proper *Pukamani.*"

"But to have a proper *Pukamani,* Paddy, all of you should come to America too. No one there knows how to dance and sing and make a proper *Pukamani.*"

"You bin teach them," he said. "Maybe we come we get killed by Indians."

"Oh Paddy," I replied, "the Indians don't make war any more. They are just like you. Some live on reservations. Some go to work in towns. Many go to school and some even go to college. The Western movies in Darwin are all stories from *Palinari,* the old days. You used to fight and kill white men and strangers when they first came to your country just as the Indians did, but that was all over a hundred or fifty years ago."

"Well maybe we get too cold along America; more better you teach them how to sing and dance and we make poles for you. How many you want? How big?"

"That all depends on how big Mr. Hickey's boat is, for he will have to take them from Snake Bay to Darwin. Then they will go on a big ship to America. We'll ask Mr. Hickey how much room he has; then we will know how big and how many."

A week later the supply boat from Darwin chugged into Snake Bay on the north coast of Melville Island and landed at the Australian Government Settlement where approximately 180 members of the aboriginal inhabitants now live, go to school, run a sawmill, and have erected permanent community buildings and private dwelling shelters, where new members of the tribe are born and where the deceased members are buried. (Seven hundred more Tiwi now live at the Mission on the neighboring Bathurst Island, separated from Melville Island by a half mile of water and from Snake Bay by thirty miles of bush country.)

All normal work in the Settlement stopped as the boat tied up at the jetty and all hands turned to, to unload the bags of flour, sugar, tea, and cases of corned beef and canned milk to supplement the fish, crocodile, turtle, and wallaby meat which the Tiwi hunters manage to find in the nearby waters and bush. Also unloaded from the boat were such items as bolts of calico to be made into wrap-around skirts or bikini-like *nagas,* the everyday dress of men, women, and older children. Tobacco, knives, hatchets, mirrors, razor blades, white shorts, shirts and trousers and colorful print dresses, blankets and mosquito nets, were carried up to the storehouse, some to be distributed to the entire population, some to await purchase by individuals who had accumulated credit or had become lucky in cards and had won hard money.

Soon after the unloading, I received the information I needed from Mr. Hickey. My poles should not exceed fifteen feet in length nor be heavier than two men could handle. I added one more restriction when I repeated this information to Paddy Nonolu—the poles should not contain structural elements which would be likely to break in transit. Aside from these instructions, my contract was essentially the same as is made between the close relatives of a deceased Tiwi and those who are selected to carve and paint the poles to mark the grave.

I agreed to supply some of the excellent yellow ochre from the distant Imilu locality, which I had in my possession. This ochre is pure and strong and when it is oxidized in a fire becomes a deep red. The other ochres could be obtained close to the Snake Bay settlement and the artists could easily collect them themselves. I personally had no axe to give to the workers, but the superintendent of the settlement acted in my behalf and lent the necessary tool. He also "undertook" my obligation to "feed" the workers, an obligation which is in fact no longer necessary in the settlement where all the natives are fed from the government stores. If we had been out in the bush, or if it had been in pre-settlement times, I would have had to hunt for the workers, who were otherwise engaged in working for me and could not hunt their own food. At times today during the preparations for the final grave-side rituals, the relatives will give their workers a token gift of food, perhaps some succulent crabs or a cup of tea. In my contract with Paddy Nonolu I also gave him to understand that I would pay each individual artist in whatever manner each wished, upon the completion of the poles. This too was in accord with the Tiwi custom.

I then selected the workers I wished to carve my poles; however, the basis for my selection was on the skill and past performance of each worker, for I wished to have exact copies of certain poles which I had seen carved during the past months. This method of selection was quite at odds with Tiwi custom and deserves some further discussion, for the selection of pole cutters is perhaps the most significant factor in understanding the art of the poles themselves.

In the old days, the Tiwi were not congregated into heterogeneous government and mission settlements but divided into fairly autonomous communities each with a recognized boundary. Within each community there were some residents who were born there and some who had married into the community, although there was no absolute rule governing the choice of a spouse from within or without the community. But as among all Australian aboriginal tribes (and many native groups around the world), every individual is considered to be related to everyone else in the community, and indeed in the entire tribe. Some of these relatives are considered to be more "close up," others to be "long-way," in spite of the fact that they are called by the same term, in much the same way as we regard "cousins" in our own society. When a member of a community dies, he or she is immediately buried in the bush at some distance from the camp. All "close up" relatives in the community must attend the burial but may not actually dig the grave. This job is left to a particular group of residents who are considered to be in relationship the most "removed" from the deceased. These people are not related to the deceased through their mothers or fathers nor through marriage except in the most distant way.

The commissioning of the pole cutters takes place some months after the burial, at the conclusion of one of a series of preliminary songs and dances led by the eldest resident "close up" male relative of the deceased—the father, father's brothers, eldest brother, or eldest son. The leader and the rest of the close kin nominate pole cutters from among that group of community residents who are most distantly related to the deceased, those who also acted as undertakers at the burial. Not all of these kin will be selected, but no one who is not of this kin group, except their wives, may cut poles for the deceased, because the grave area is strictly tabooed and out of bounds for everyone except this class of kin from the time following the burial until the final ceremony.

The leader commissions the workers by taking an axe and painting the handle white. He sets the axe in the center of the dance ring and the workers form a circle or semicircle around it and dance—no particular dance step, for although there are many different dance forms and steps, there is no "workers" dance. The leader then gives the workers their general instructions concerning approximately how many poles they should cut and how big they should be.

*A carved and painted funeral pole is usually the creation of one Tiwi from beginning to end. Here, the Tiwi worker, using a wooden comb, "mass produces" rows of dots, thus making his job easier.*

Thus we see that a Tiwi pole cutter is selected primarily because 1) he is a resident of the country in which the deceased is buried, 2) he is of a particular kinship relationship to the deceased. Only secondarily will the worker be selected on the basis of skill, and in many cases this is not taken into consideration at all. Every adult Tiwi is expected to be available for pole cutting (just as every adult American is expected to be available for jury duty). Although males are more often selected as workers, because of the physical labor involved, females may occasionally be commissioned, but usually they assist only as helpers to their commissioned husbands. The cutting and painting of poles is not the work of specialized artists, but an obligation which sooner or later everyone will expect to undertake.

Aside from the fact that each pole must end with a projection which will be planted in the ground, the ultimate shape of the pole will be limited only by the dimensions of the tree itself and by the imagination and skill of the individual artist. Likewise, the painted design is limited in the choice of color only, and that by the materials available, yellow, red and white ochre, and charcoal. There are no set styles of carving or painting, and although some individuals have developed a distinct style which will be repeated from contract to contract, each pole will often contain its own unique elements.

I have stated earlier that the selection of the workers on the basis of local residence and kin-relationship to the deceased is perhaps the most significant fact for the understanding of the art of the Tiwi funeral poles. The Tiwi themselves can identify the locality of a particular pole from the form and design alone and can sometimes even identify the individual artist. Although every pole in a particular locality is unique in itself, those of one area will exhibit elements which are lacking in another and will as a group be representative of a distinctive art style.

Since I had not contracted with my workers for poles which would be set up around the grave of any deceased close relative of mine, the area in which they chose to work was not tabooed to me as it would ordinarily be to the Tiwi employers. I often went out to sit quietly observing my employees, not because I had any desire to "oversee" their work, but to enjoy the feelings of peace and inspiration that come to anyone who watches a truly creative artist at work.

Each man selected his own bloodwood tree, the species most frequently used for a funeral pole because it is an extremely hard wood and best withstands the ravages of weather, insects, and time. The tree is felled, cut to dimension, and debarked. Then usually the pedestal is cut out at one end. By this time each man has fixed well in his mind the form which the pole will subsequently take and immediately begins shaping the wood, making hollowed-out sections ("windows"), knobby projections around the circumference ("breasts"), single or dual projections at the top ("masts" or "ears"), or other decorations which have no descriptive names.

The pole cutters worked slowly and carefully but without hesitation, knowing exactly what each blow of the axe would contribute to the form. Some worked with little relief; others paused to stretch their muscles, have a smoke, and chat, quite often voicing their next planned act of creation, but not for approval or advice either from the other workers or from their present employer. As the poles progressed, I noticed that, with one exception, they bore but faint resemblance to those each had carved before and which I had foolishly asked them to copy. Only that carved by the man who was considered by the settlement to be an expert, one who had developed a form which was quite unique in all aspects, carved for me, as he would for any Tiwi employer, a smaller copy of his usually very tall and beautiful pole. Most of the Tiwi artists appear never satisfied with a previous creation but feel that there is always room for improvement and innovation as they become increasingly skilled.

In about three days the poles were pronounced ready to be "cooked." Cooking was a joint enterprise as, singly or in pairs, the fully carved poles were covered with dry brush and fired, and frequently turned so that the surface would be evenly smoked and blackened. This process not only dried the surface for the painting but also effectively created a black background against which the white, yellow, and red design would stand out in contrast.

The following day Paddy and the other men went hunting along the coast, collecting from the cliffs the white clay, and from the beach turtle eggs. On none of the other poles I had seen manufactured, had the Tiwi used turtle egg, but had rubbed the blackened poles before the design was laid on with the juice of orchid roots crushed in water. However, my workers said that turtle egg is the best and would hold the paint on the poles far longer and was the "proper old way."

*Commissioned Tiwi artists at work: carving and painting poles for the final dance at the grave.*

*Painting the body, particularly the face, the mourners disguise themselves from the spirit of the deceased before the final dance.*

The painting of the poles took four days. Each artist cooked some of his own present of yellow ochre to make the deep red pigment, and crushed the charcoal and white clay and mixed them with water. Their palettes consisted of folded leaves, or paper bark, or tin cans; their brushes were small twigs chewed at one end. Dots they made with unchewed twigs, or with a piece of wood carved into a "comb" with which they could "mass produce" the dotted decoration. Some men finished one section of their pole completely before moving on to another, while others worked on their poles as a single unit, making the outlines of the design and then filling in with dots.

Finally my poles were finished and were moved to the settlement and set in the ground in a single row. Were I to have a proper *Pukamani* this would signify the beginning of the final ceremony. For such a ceremony the poles are set up in rows about fifty yards from the grave mound and the ground around the poles, and between the poles and the grave, cleared of all sticks and stones which might injure the barefooted dancers. The employers are now informed that all is ready at the grave.

Early in the morning everyone gathers and marches together to an area close to, but out of sight of, the grave and the poles. They carry with them large bark baskets elaborately painted, a number of multibarbed wooden spears, and supplies of paint, as well as blanket rolls, mosquito nets, and a certain amount of food. They also carry with them the gifts with which they will pay off the workers during the ceremony.

Stopping in the selected area, out of sight of the grave, the leader begins a short dance, lighting a smoking fire around which stand the men, who listen to the leader's words and slowly join him in chanting his song and slapping their buttocks in time to the beat. When the chorus of men are chanting strongly, the singer and perhaps his brother or wife dance around and through the smoke of the fire while the remaining women shuffle into the dance in opposition to the singing male chorus. One or two other men initiate a song and dance at the conclusion of the first, and eventually all have passed through the smoke, which gives them strength and protects them from broken bones.

Each family now retires to its own little fire under its own shade tree and the painting of the body begins. The entire body must be painted including the hair and beard; and although much of this can be self executed, particularly if one has a mirror, help is often needed. Husbands paint their wives and are in turn painted by them. The pole cutters, however, do not paint themselves until all the close relatives are painted, for they have a duty to help anyone who needs their aid in this endeavor. Children should also be painted and they usually come last and perhaps have smeared enough paint on themselves to necessitate no additional attention.

The object of this painting is not to decorate and enhance the natural features of the face and body, but rather to obliterate them entirely, so that recognition on the part of the ghost of the deceased will be impossible. Of the various spiritual beings that share the Islands with the Tiwi, those of the deceased, the ghosts of the dead, are treated with the utmost respect at all times. Ghosts have been known to kidnap the living, carrying them off into the densest part of the bush and making them insensible and eventually killing them if they are not rescued in time. As ghosts do this mainly because of loneliness rather than for revenge, any close relative of the ghost is liable to be kidnapped, and thus all must take precautions. During the period of mourning following the death and burial until the close of the final ceremony many months later, all close relatives must paint their bodies in disguise and must never wash. They must wear braided pandanus bands around their arms. They must not touch any food with their hands nor any container of water. The many native names of the dead one, and even his English nickname, must never be mentioned by any living Tiwi for many years after the death, and sometimes forever, for the ghost remains always near the area of his grave, in the company of others who are buried in the area, hunting the animals in the bush and fishing in the rivers and sea. Nominally the land about the grave belongs to the ghost, but it may be hunted upon by his descendants for as long as his grave posts stand to mark his grave and his ownership.

During the final ceremony when the grave posts are placed around the grave and all the members of his local community and distant kin dance and sing, the ghost and his companion ghosts join the living to dance and sing, sometimes at the same time but most often when the living have finished a series, as during the night when all are camped close to the grave and again at the finish of the ceremony the following afternoon. It is because of the proximity of the ghost and his still intense loneliness that everyone must disguise himself before he approaches the grave itself.

*A "modern" young Tiwi dancer prefers simple designs which do not disguise her beauty.*

*These children could not wait to be painted by their parents and painted each other!*

Aside from the painting, false beards made of goose feathers and beeswax are tied around the chin, or over the head, of both men and women. Twisted human hair belts are worn around the waist or entwined into the head hair making an aboriginal "hair piece," and cockatoo feathers set on wallaby bone pins are stuck into the hair.

Late in the afternoon the elaborate body painting is completed and all gather from their family camps to march to the grave. One of the men starts a high shrill cry and others pick up the note, so that the sound is held for a long three or four minutes without diminishing in intensity until the grave comes in sight; then, dropping the "mosquito cry," they rush en masse through the lines of poles and on to the brush-covered grave mound, wailing, shrieking, and crying, beating themselves on the back and head with clubs, and cutting their scalps with sharp hunting knives till the blood runs in small rivulets down the painted cheeks.

In about five minutes, the tide of grief abates, and all retire to the area close to the line of poles, and the singing and dancing begin again. As before, one man begins a song the words of which are slowly picked up by the semicircle of men as a chorus. To the chorus of clapping and chanting men, the singer steps into the circle and dances to his song, helped by his brothers, wives, and sisters. The dancing chorus of women forms the counterpart of the men's singing chorus as they dance in unison their simple shuffling step, often accompanied by their very small daughters who learn to dance as soon as they can walk.

The songs which are sung are composed by the singer; most of them are new songs, but some old ones composed for other funerals. The tune is constant line, a plainsong-like chant, to which the words must be made to fit, often necessitating critical choice of words and license in the pronunciation and syllabification. The Tiwi singers are poets and composition of songs is one of the most important personal attributes that one can acquire. There are no song specialists, for every adult Tiwi is expected to compose at least one song for every funeral, and those who are in charge of the ceremony must compose as many as a dozen or more. A woman too composes special songs when her husband lies within the grave; these she sings during the final ceremonies as well as during the preceding months even when there is no audience.

The songs concern the past history of the tribe or of the individual who is now dead, current events in the settlement or recent news, mythological and fictional narratives concerning the

*To a chorus of chanting and clapping men, three men enter the dance area to illustrate the leader's song. On the pole are the items to be given to the worker in payment.*

*Three workers dance with their payment in hand. They are satisfied and will move their poles to the grave itself after they have completed their dance.*

*In the heat of the sun and the fury of the dance, a sweat-soaked "thief" and "policeman" wrestle in pantomime to the leader's imaginative song of how he had to steal to provide the workers with their payment.*

*With the poles in their final position massed around the grave, the widows wail as they go in and around the poles while one dancer imitates a buffalo circling the grave.*

animal, vegetable, and mineral environment of the island, or even movie-inspired stories concerning cowboys and Indians. Many of the dances serve to act out the action of the song. In many cases there are traditional dance steps which have been developed to mark certain subjects, such as crocodiles, sharks, birds, aeroplanes, buffaloes, turtles, boats, rain, frogs, bees, mythological spirits, radio, telephones, and flags and canoes, and many others. These steps are owned by their inventor and his descendants and when a song calls for a certain subject for which there is a dance, those who own the dance will enter the ring and illustrate the song, often helped by others who may not own the dance but have learned the intricate step. New dances are constantly being tried out on these occasions when a new song is introduced, and some may well become popular and traditional in the future. So, in the singing and dancing as well as in the carving and painting of the poles, we see the imagination and creativity of the Tiwi being held as an ideal.

Aside from the creative and illustrative dances there are those which certain groups of kin must dance. There is a mother's dance, a father's dance, a sibling dance, and a widower's dance. These last two are far more frequently performed at an adult's funeral, for brothers and sisters and husbands or wives are more important to an adult than are his mother or father and their sisters and brothers. The siblings of the dead one dance with an "injured" or "broken leg" because a muscle twitch in one's leg means that some absent brother or sister is talking about you. The surviving spouses always dance with a fighting club, often throwing them at the finish of the dance into the bushes covering the grave, for they of all the relatives of the dead one must fight the hardest against the ghost.

Long past the setting of the sun, the dances continue in the flickering light of many small campfires burning in the surrounding bush. But as the night continues, the exhausted dancers drift away to their family campfires, finally leaving only the widows or widowers to sing their mournful wailing songs intermittently throughout the long night, as they walk slowly around between the poles and the grave keeping their vigil.

At daybreak the following morning the rested dancers begin again their rounds of songs and dances.

Along about mid-morning there is a change of pace. The gifts for the workers are brought into the dance area and the group of employers portion out the calico, knives, razors, shirts, shorts, tobacco, and so forth, to each pole according to its size. When all is ready they begin the "payoff." This may take many forms. The leader of the ceremony may have thought out a special narrative dance which he now presents, or he may merely call each worker up and dance with the payment in his hands, handing it over to the worker at the conclusion of his dance. The worker must now dance with his payment in his hands to signify that he is satisfied with the amount and will allow his pole to be moved to the grave. (Should he not be satisfied, he will refuse to move his pole and it will remain forever apart, to rot alone on the dance ground.)

When each pole has been paid for and all the workers satisfied, they move the poles to the grave mound and set them up completely encircling the grave, and the bushes are removed from the mound exposing the bare reddish earth.

When all is set, the grave with its colorful and impressive markers is again rushed by the mass of mourners, wailing, shrieking, and beating themselves with knives and clubs. Some rush the poles headlong and are grabbed by others just before they crack their skulls against the hard wood. Then for the final time the Tiwi dance before the grave. During this dance the close relatives are washed and shaved for the first time since the burial, and their armbands are removed and placed on the mound. The large bark baskets are turned over the tops of several poles or left leaning against them, and the multibarbed spears are set upright between the poles. For the last time the mourners wail over the grave, hiding their heads among the poles before they drift off, turning back only to call out *nimbangi,* goodby, to the ghost of their kin.

The grave is now deserted. Soon the grass will creep in where the dancers' feet churned the earth into fine dust. When the rains come they will wash the paint off the poles, and through the years the termites will make tunnels in the wood. But it will take many years for the wood to rot completely and for all trace of the grave to be obliterated by the forest. Anyone may now visit the grave, but one must always when leaving call out *nimbangi* to the ever-present ghost so that he will have no cause to follow.

When I left Melville Island in December I said *nimbangi* to all the ghosts as well as to the living Tiwi, but I cannot look at the poles which now rest in the Museum without feeling that I was followed by the Tiwi, who will always dance and sing for me beside the painted poles.

# TIWI Burial Poles as Sculpture

*By* JAMES HOUSE, JR.

Nothing in time so much alters the character of the concretion which is a work of sculpture as technological change, in tools, materials, and methods, and the sequential play of the sculptor's imagination upon these developments. This imagination is conditioned by his culture as well as by his craft and by those personal resources which vary with individuals. The old enduring cultures, evidenced by very complex civilizations, continue to overweight their cultural emphases in demands upon their artists and thereby weaken the sculptural craft.

The "primitive" sculptor has been spared this degradation although the social use of his art has remained largely unvaried. His safety as a sculptor lies in the fact that century after century his vitality of concept as an artist is rooted in the communal acknowledgment of living quality within his cultural pattern.

Against the detailed effloresence and channeled patterns which characterized the Western sculptor's imitations of the physical world—materialism supplanting meaning—until the middle of the last century (still existing, though feebly), the art of primitive cultures is seen for what it is, a vital treatment of cultural *meanings* proceeding from its makers and their intimacy with the working of available materials. These materials are the same as used to create utility items which have become more dependable in service and duration as the workers have learned to make forms consistent with the maximal structural strength characteristic of materials used. Their road to this knowledge has been the long one of empirical trial and error, and the artisan lessons there learned are the basis for the constant persistence of the "primitive" sculptor's appreciation of materials and the potential of his tools.

Common beliefs enlisted all craftsmen for an aim differing from structural-utilitarian shapes. They sought to bestir the onlooker through the innate character of his optical equipment, its nerve conduits running to the apperceptive brain, seat of meaning. To achieve such reception by others within the communal group, and that this reception accord with the carver's intentions, demands that the carver create possible forms which by themselves and in relation one to the other will arouse the feelings he intends. Thus the carver becomes a sculptor. From there on, he is limited only by his tools and by his inventive usage of them, which thus extends their shaping capacity beyond the needs which had led to their invention.

Since the very early part of this century when the strange vitality of African sculpture, arising from its form alone (the creative literary and visual artists of Paris then knew little of the cultural institutions generating its creation and less of its tribal usage) became a welcome source of redemption of Occidental art, "primitive" sculpture has become a rage. With the rapid incrustation of the West upon primitive cultures, it has become more and more a thing of the past, its cultural sources drying up. Some time ago archaeology was left the task of finding anything new in "primitive" art.

Fortune often defies space and time, the implication being that it jumps extraordinary distances through illimitable time. As recently as 1954, she crossed fifty miles of water (and eons of time) and brought back several pieces of sculpture in the round from a little known "stone age" culture, and with them an extensive photographic record of aboriginal sculpture *in situ,* the processes of its creation, and its use within the culture. Its quality is high; its use involves complex sculptural relationships.

The three-dimensional power of fully rounded "primitive" sculpture in wood—that is, its continuing demand upon the spectator to see it from all "sides"—was recognized shortly after "primitive art" was transformed from ethnographic material to art. Sculptors have known from the beginning of the craft that the form of the material to be carved conditions the concept of any work of sculpture. The cylindrical tree possesses a curving surface which invites the viewer to go around it, the cylinder being intrinsically a three-dimensional form in the visual and tactile senses, a state which all full-rounded sculpture must attain if it is to be of good quality.

"Primitive" sculptors have utilized distortion or transformation of human and animal forms with only occasional intervention of "abstract"

forms, so formal in shape that whatever symbolism they hold must be explained by the aboriginal makers. The Tiwi people of Melville and Bathurst Islands, off the northernmost tip of Australia, have, at least since the first accounts going back to 1824, utilized "abstract" forms in their burial poles with rare, and perhaps recent, excursions into anthropomorphic forms. The abstract poles are in many instances (in name, at least) anthropomorphic in symbolism.

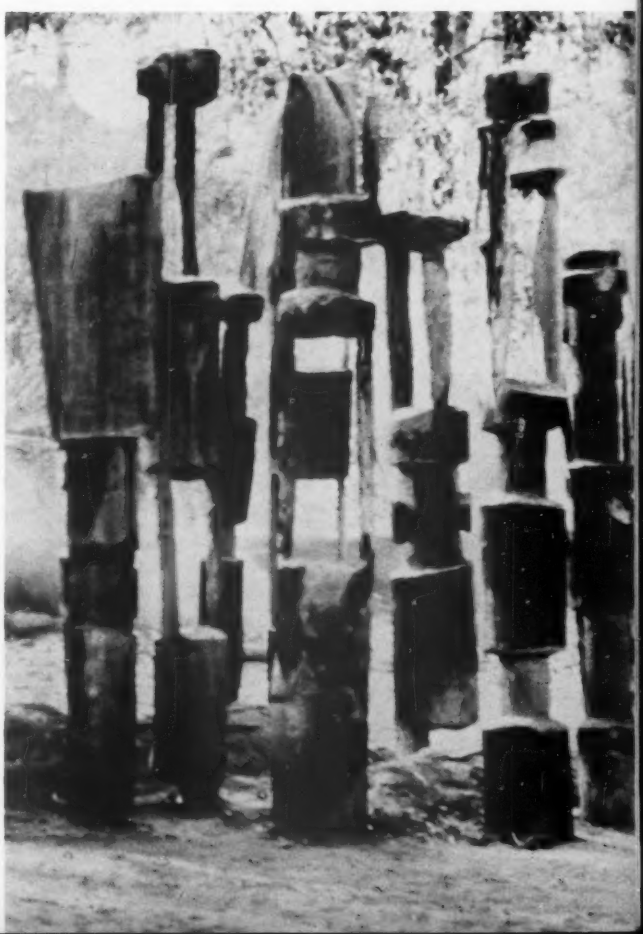
The burial poles are covered with painted formal designs; only one seen by the 1954 expedition contains any recognizable semblance, as of fish, reptiles, canoes, and humans. Tiwi designs are preponderantly and traditionally "abstract," and even today, when colors of commercial manufacture are obtainable, are rendered more often than not in locally obtainable colors, yellow, red, white, and black. The meanings of the painted designs have no relationship to the meanings of the sculptura[1] forms upon which they are painted, and each repeated single form may be assigned different meanings on other poles and even on the same pole.

Basic sculptural forms are few: all except the plane and the spiral are used by the Tiwi. The cylinder, cone, sphere, rectangular and triangular prisms, and the rod are used for solid forms. The rod in combination with heavier solids is also used to incorporate space as a sculptural element. They use these raw (with little variation), use few forms in a pole, and exercise that sophistication of proportioning characteristic of most primitive tribes. The structure of wood permits a narrow elongated form capable of carrying a large form of far greater weight, illustrated here in photos showing carving and painting a pole. When I expressed a wood-sculptor's delight in this pole, Jane Goodale told me that her native informants rated its maker as their best local carver, and added that his are the most precisely executed poles she saw. Their restriction to large elementary forms is partially due to the size and nature of the one carving tool used, the steel axe which has succeeded the stone axe.

The executed forms, seen solely from the sculptor's angle, omitting cultural considerations, are a product of the malleability of the material employed under the shaping tools. The bloodwood tree is a very hard eucalyptus, chosen for the poles because of its resistance to weathering and the prevalent termites of the humid clime. The poles stand for forty to fifty years about the graves, rapidly losing their water-soluble surface designs, so leaving visible for more than four decades only the sculptural forms of each pole in relationship to the other poles about the same grave, and frequently to poles of a nearby grave.

For a primitive a most unusual cultural attitude intrudes (superior to and directly opposed to our American practice), which may well be the crux of the sculptural-design vitality characteristic of their work. The same way of life existing over a long period of time is usually not tolerant of change. The Tiwi have an incentive to keep the creative appetite well whetted, and it is a simple one. Social prestige requires a creative mind. This ready alertness for giving an original twist to age-old ceremonials or intruding a new item is expected. They also use over and over again that which satisfies them.

There is no direct ethnographic evidence that this attitude plays a part in carving the burial poles. Yet no two seen by the expedition in the Snake Bay region of Melville Island are the same in their combination of forms, despite their constant use of the generic basic geometric solids. Very possibly there exists a carry-over of the creative attitude found in song and dance,



into their most important field of visual creativity, the pole carving.

Many poles are in themselves extraordinarily exciting sculpturally. But no pole is created to be used alone. During the "payoff" ceremonies they will stand in a straight row, and afterwards they are moved to stand about the grave in a more or less ovoid-shaped group. When one sees them in either of these destined arrangements, one is conscious of their *differences* in design and not of their similarities, though the pole-shape is a definite unifying factor. In circuiting either arrangement and by changing eye-level, the spectator experiences constantly changing relationships. Several poles about a grave present an infinity of combinations with poles on the opposite side being seen moving across the intervals between those nearest. Consider that the dances and mourning rites not only go around the group but rush toward it and penetrate it; one will then realize the emphases of spectral reality embodied within the geometric solids, as released by varied speeds and moving vantage points which are the spectator's paths.

These *fully rounded sculptures in a group* are related to the space and the grave within, and to all space without, as they stand in the open air against only the extending landscape—a concept unique in "primitive" sculpture. Such ideas are new in Occidental sculpture and have followed upon the consciousness of "space" as a form element in tune with our contemporary world, publicized by the "Constructivists" in their 1922 manifesto out of Moscow. Thus far none of the writers on Australian art have, to my knowledge, emphasized the Tiwi poles as fully rounded sculpture of a high order. They have considered them only in their ethnographic field.

Not only are variety and proportion a subtle and ever-pleasing keynote of each grave group, but if one can (by miraculous concentration of attention) isolate one pole from another, he will find that members of a "stone age" culture, leading a repetitive life within narrow limits, have continuously produced different—and so ever new—major sculptural monuments. The inroads of civilization have added means and ideas for the continued development of this art rather than caused its decay. Only if the ceremony itself, the reason for making the poles, is overthrown by civilization, will the vitality of the art die with it.

Some examples of these poles are in Australian museums, two were recently acquired by a museum in Basle, Switzerland (these are anthropomorphic in sculptural form) but the only examples—and these a complete group—in this hemisphere are in the University Museum. This "coup" was executed by Dr. Goodale who had the macabre foresight to commission several workers to carve burial poles for her own (unscheduled) funeral. I have since learned that her visual delight and that pervasive conceit in human achievement characteristic of all of us was a life-celebrating motive in her decision. For the first time they appeared in a comprehensive show, the University Museum's exhibit "Art of the South Pacific" in 1955, and they were then shown in a single line, the "payoff" arrangement, which is one of the two ways they should be seen.

In their relation to the sculpture of the Western World—and this is a brief venture in that direction—no one knows what time, a distilling instrument of all opinions, will say, but with some conviction I submit the following.

Because of their experienced and expert use of elemental geometric forms in fully-rounded sculptural combination, if they could somehow have seen the sculpture of that sophisticated conscious seeker for the secrets of sculptural power lying within basic geometric solids, the late Constantin Brancusi, the Tiwi with creative conscience would have adopted him into the tribe, making him an honorary citizen in the best Western traditions. Likewise, had Brancusi known the carving-groups of these aborigines, he might well have become a leading advocate of the worthiness of their work among world sculptures.

Following the last moment of the funeral ceremonies, the poles exist as gifts to the dead and no more attention is paid them by the natives. This is characteristic of all creative artists. The work at hand is important. When it is finished, its maker's interest in it is gone—unless it be for monetary or publicity reasons (self-conscious reasons). The creative Tiwi carver looks to the next carving, feeling with all sculptural creators that the joy lies in the act of conceptual-embodying processes.

Miss Goodale's commissioning was foresight. There is no such thing as hindsight in the commissioning of burial poles. But the Providence of Affinity might well commission several Tiwi sculptors to make burial poles for the grave of Constantin Brancusi—fundamental like unto like.

*The industrial area to the north of the pool, in which there are 11 wine cellars and 11 other cuttings in the rock for presses and vats. In the background is the modern village of el-Jib.*

# *The Wine Industry at* GIBEON: *1959 Discoveries*

*By* JAMES B. PRITCHARD
*Photographs by the Author*

In a Near Eastern country such as Jordan an archaeologist learns quickly that it is usually best to discount, if not to disregard completely, local rumors about ancient wonders which lie underground. Too often these alleged treasures have been found to exist only in hear-say embroidered by folk imagination. Yet, what seemed to be a highly improbable tale supplied the clue for the most important discovery of the University Museum's 1959 expedition at ancient Gibeon: a 2600-year-old winery, perhaps the oldest yet discovered.

After we had worked for two months at el-Jib, the modern village which is the site of biblical Gibeon, Hassan Abdullah, an elderly laborer,

A. ERIC PARKINSON

*Five cellars of the industrial area to the south are inspected by Hassan Abdullah, the owner of the field, who pointed out this area as a site for antiquities.*

told me a story to which I had listened patiently, but skeptically, on two previous campaigns. Some sixty years ago, Hassan alleged, someone had found a great pit in his field, and on descending into it had discovered a cave to which there was a sealed door. Asserting that the story was true "by Allah," Hassan urged me to rent his field for excavation.

By chance, on the very day of Hassan's third recital of this story we had ten workmen and a supervisor who had finished their plot and had nothing to do. Why not, I thought, put an end once and for all to this improbable tale? Hassan and another villager, whose memory reached back sixty years, solemnly pointed to the spot at which the pit had been seen. We rented the land, staked out a plot of twenty-five square meters, and began to dig.

To the amazement of everybody, except Hassan Abdullah and his aged friend, we soon struck the opening to a pit, which produced the most important link of evidence for the identification of a large industrial installation as a winery of the seventh century B.C. and, indeed, there was a door, not to a cave, but to a Roman tomb containing elaborately decorated walls and a columbarium with funerary niches for approximately two hundred burials. Needless to say, Hassan received a generous reward for his story.

El-Jib is a large mound which lies in the middle of an open plain just eight miles north of Jerusalem. In 1956 we had been able to identify the place by finding some labels to wine jars containing the name Gibeon, which is rich with biblical association. It is related that the Gibeonites deceived Joshua and got from him a covenant of peace, so that their city escaped the destruction which Joshua was accustomed to inflict on cities like Jericho and Ai which were in his path. The men of King Saul fought the men of King David at the "pool of Gibeon." Later, Solomon made use of the city's ancient "high place" for sacrifice before he built the famous temple in Jerusalem. But for the four centuries from the time of the erection of Solomon's temple to the Babylonian exile, the historical records of the Old Testament are silent with regard to the fate of this important city.

As a result of our work in the summer of 1959 it is now evident that in the four centuries of Gibeon's "Dark Ages," the Gibeonites were busily engaged in trade and commerce. During this long period the city was protected by a great wall fourteen feet thick which encircled its sixteen acres of buildings—one of the largest walled cities of central Palestine. The failure of the religious history preserved in the Bible to mention the activity of this thriving metropolis over a period of four hundred years is obviously due to the fact that after the early years of Solomon's reign it no longer served as a religious shrine. The writers of the Old Testament were more concerned with religion than with industry and commerce.

Four years ago the University Museum expedition to el-Jib discovered a large pool which had at its bottom a stairwell leading down to a spring of water which flowed through the rock 82 feet below the street level of the city. In order to insure a supply of water within the city when the gates were shut in time of siege, the ancient Gibeonites had quarried and removed about three thousand tons of solid limestone for the making of the famous pool. They had cut a circular stairway of 79 steps for the water carriers to reach the spring. The tradition that the men of Gibeon were "carriers of water" has been preserved in Joshua 9:21.

Much of our effort in the first two seasons of 1956 and 1957 was devoted to removing the debris which had been filled into this rock-cut pool. The most interesting remains consisted of fifty-four handles from wine jars, each with the name and address of the maker of the wine. The address, Gibeon, was followed by such well-known biblical names as Azariah, Amariah, Hananiah, and others. But where did these jars come from? How was wine made and stored in ancient Gibeon? How extensive was this wine industry at Gibeon which obviously produced a supply sufficient for export? These were some of the questions that we hoped to answer when we began a systematic clearing of the area around the pool which had produced the first clues for the industry.

During the first weeks of the 1959 excavation* we discovered just north of the pool a large open area, the size of a small city block, without any house walls. When we had cleared it down to bedrock, there appeared eleven vats, roughly

* The season lasted from May 28th through August 6th. In addition to the writer, who served as director, the staff consisted of: William L. Reed, H. Neil Richardson, Fred V. Winnett, R. B. Y. Scott, Asia G. Halaby, John Huesman, Robert J. Marshall, Marvin Pope, Willard Oxtoby, Choan-seng Song, Robert H. Smith, Douglas M. Spence, Subhi Muhtadi, Gustav Materna, and Mohammed Shehadeh. The American Schools of Oriental Research cooperated in sponsoring the expedition.

*The pool of Gibeon cut from the bedrock about the 12th century B.C. with circular stairway of 79 steps leading down to a spring 82 feet below the surface. From the filling in this pool came the inscriptions which identified the site of el-Jib with biblical Gibeon.*

bell-shaped, hewn out of the rock. The opening at the top was usually small—the average was 29 inches—and could be covered over with a flat slab of stone. Some of these were found in place. Below the mouth of the vats the cutting had been enlarged to a diameter of 6 feet and the depth averaged 7 feet 4 inches.

What purpose could these carefully cut vats have served? To judge from the damp debris which came from them they would not have been suitable as silos for storing grain, since it would have moulded quickly. Nor could they have been intended for water, as they were much too small for this purpose and there were no channels cut into the rock for conducting the water into them. But to make certain that they had not been cisterns we hired a man and a donkey to carry water from a well two miles away to fill one of the vats. In three days' time all the water had seeped out through the porous limestone walls.

The result of this experiment also excluded the possibility that other liquids, such as oil or wine, could have been stored for any considerable length of time in the pits. We made one final effort to find out if we could determine what product had been made and stored in this area. Scrapings from the walls and bottom of each pit were collected and sent to the government laboratories of the Hashemite Kingdom of Jordan in Amman. The analysis proved that the organic matter within the vats was approximately the same as that in the local soil and could not be distinguished from it.

It was only during the final three weeks of the season that we found the clue for identifying Gibeon's industry. It lay buried in the very place which Hassan had finally persuaded us to dig. Here we found an even larger industrial area, one in which the bedrock was literally honeycombed with vats similar to those in the area to the north. There were twenty-seven by actual count.

In one of these there appeared hundreds of fragments of storage jars, all of them of the same type; but unfortunately the jars had been so completely broken to bits that not one could be restored to its original shape. But in another bell-shaped vat, which had been capped by a large stone for 2600 years there appeared a whole jar of the same type lying on its side at the bottom. It was then clear that the vats had been cut as cellars for the storage of jars, most probably containing wine that could only there

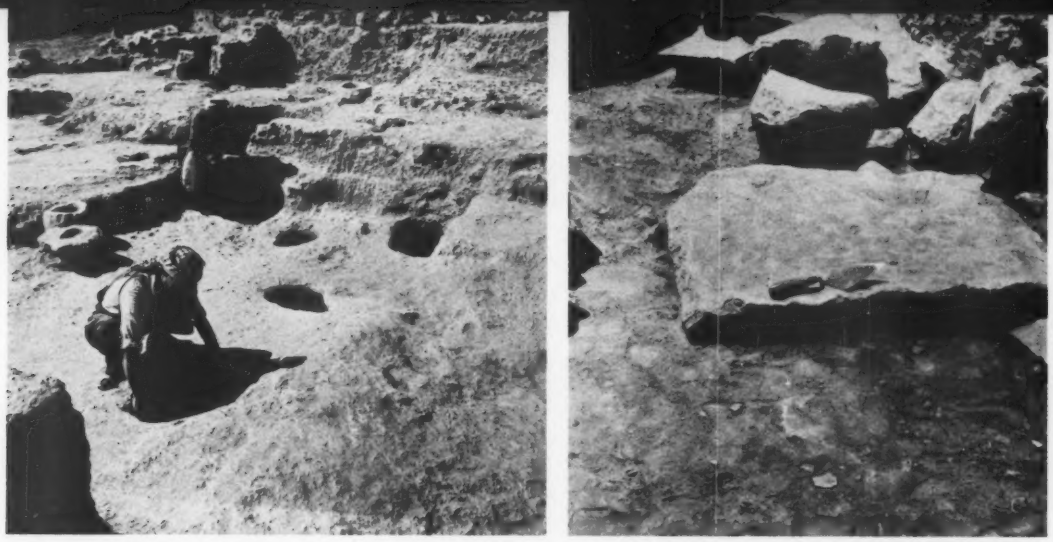
*(Left) The openings to two of the Iron Age cellars had been closed and cemented over in the Roman period. The upper opening served as a means for removing the debris which had filled the tomb. (Right) A wine press in the northern industrial area. At one side of the press there appears a dipping basin in the bottom. To the right is a stone trough, not in place, but originally a part of the industrial installation.*

*A well built doorway at the bottom of the stairs led into the tomb chamber.*

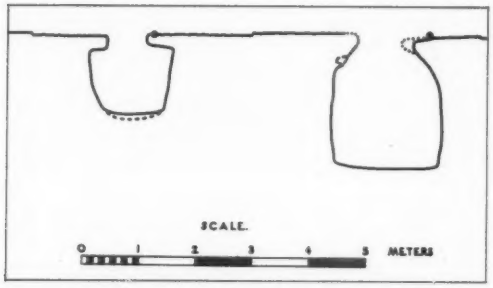
have been kept at a constant temperature of 65 degrees Fahrenheit during the late summer heat of Palestine. Upon making a trip to the nearby winery at Latrun we found that today wine is stored there at the same temperature in underground storage vaults.

At the end of eleven weeks of work the bits of evidence collected over three seasons began to fit together. Thirty-eight cellars, with a total capacity of 40,000 gallons, provided for the vintners of Gibeon the best refrigeration possible for the wine which had been pressed by foot in large treading basins. In these cellars it would have been possible to store jars containing at least thirty thousand gallons of wine. Wine which was to be exported was transferred from the large storage jars, holding eight to ten gallons, to smaller ones which could be transported more easily. These were labeled with the name and address of the makers so that empty containers could be returned for the proper credit or refund. Within the cellars there were found a number of funnels which had obviously served as equipment in the wine industry. It is interesting to note that "wine cellars" are actually mentioned in the Old Testament in I Chronicles 27:27.

But how could these labeled wine jars have been sealed to keep the wine from souring? A number of clay stoppers turned up in the excavation. While these fitted neatly into the mouths of the wine jars, they could not possibly have provided the air-tight seal which is required to keep wine from spoiling.



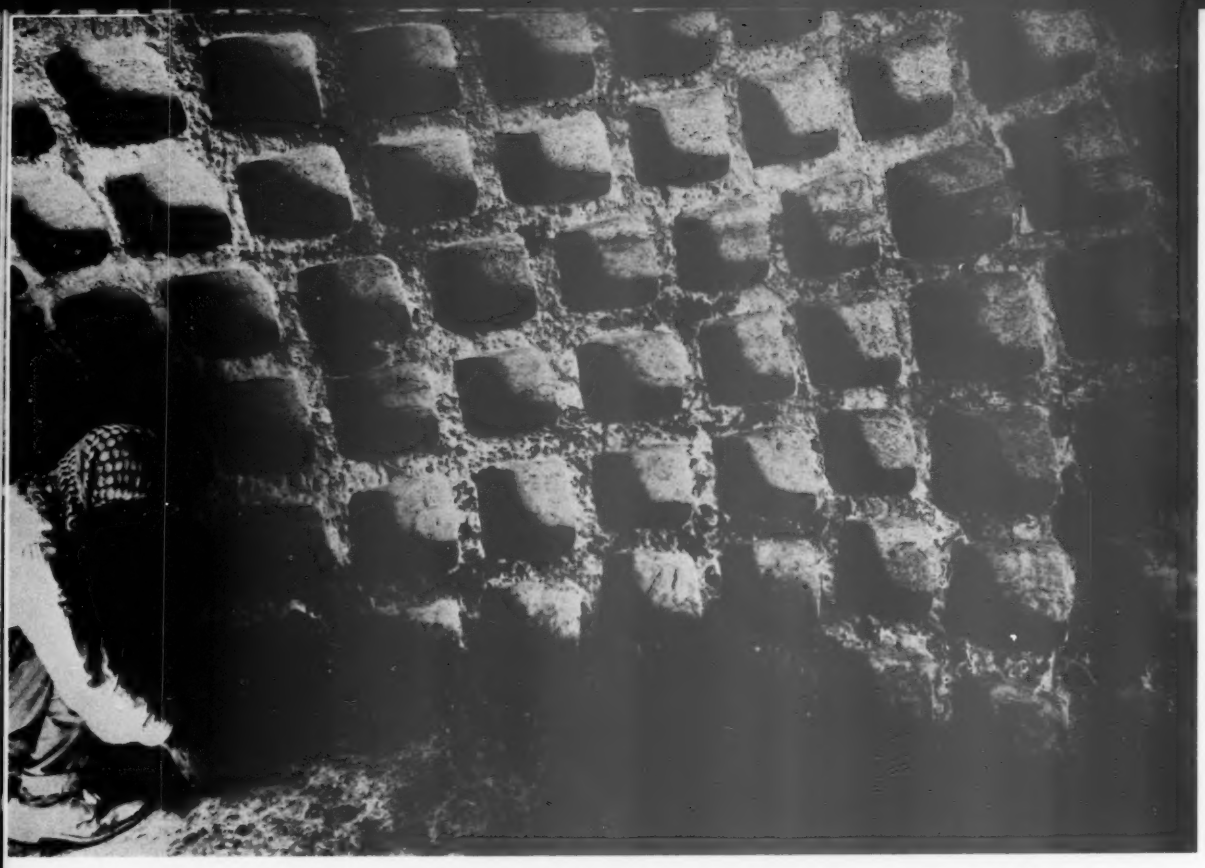
*(Left) Cleaning cellars in the industrial area to the north. Note the two mortars for grinding to the left and the other cuttings in the rock, probably small presses for extracting olive oil. (Right) One of the flat stones covering the wine cellars. When this cellar was opened a complete storage jar was found lying on the bottom.*



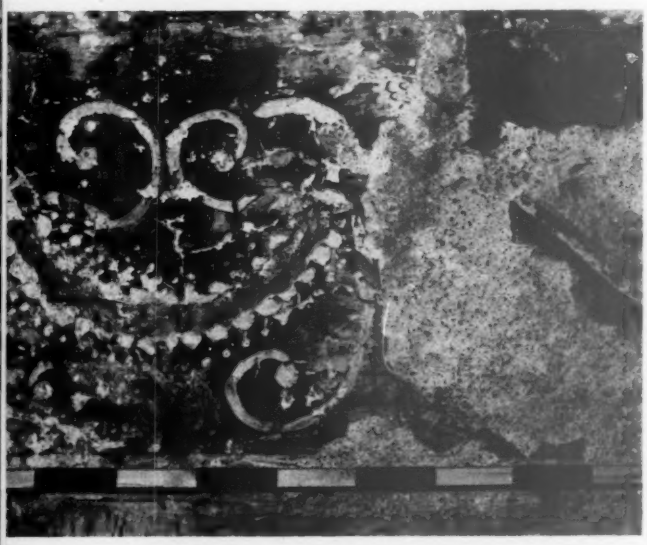

*Sections of two of the typical cellars. Thirty-eight of these were found, having a total capacity of approximately 40,000 gallons.*

*Stairway leading down to a Roman tomb which had been made by enlarging wine cellars long since fallen into disuse.*

*A small vat (below) of the industrial area to the north and a press (upper) with a small hole to allow the liquid to run into the basin.*



*Burial niches of the columbarium of the Roman tomb. Note the curved surface of the wall, which was once the inside of a wine cellar of the Iron Age.*



*Remains of painted decoration on the wall of the Roman tomb. The burial was that of a pagan, rather than of a Christian or Jew, to judge from the symbolism employed in the decoration.*

A wine maker at the nearby Trappist Monastery at Latrun suggested that olive oil poured on top of wine would seal it completely from the air. We purchased two bottles of local wine, opened them both, and poured an inch of olive oil into the neck of one bottle. After a month we found that the oil had preserved the wine in the one bottle while the other opened bottle of wine had spoiled. It then became clear that olive oil—there were two presses for olives found in the industrial area—could have filled the high, narrow neck of the wine jar to provide an excellent seal for its contents. The stopper then would have prevented the contents from spilling.

During the third season of excavation at el-Jib much was learned about the long history of occupation at Gibeon. We cut through five main levels of occupation to recover the history of the city over a period of 3300 years.

Gibeon was a great city about two thousand years before it was mentioned in literary sources. It was first occupied in the Early Bronze Age, during the first half of the third millennium B.C.,

*(Left) Design on a gold ring found in a crack of the destroyed Iron Age city wall. The ring had apparently been lost by its owner after the destruction of the city about 600 B.C. (Right) A silver ring bearing the name mrtshmn in Aramaic script, of the 6th century B.C.*

when a large part of the mound was built over. As yet, we have not been able to trace the city wall of this period, but on the north side it is clear that it lay outside the later Iron Age wall. That this first phase of occupation came to an end through a violent destruction is apparent from the remains of a room in which there were more than a dozen jars which had been crushed by the collapse of the roof.

The site remained virtually unoccupied until the eighteenth century B.C., when it was again settled for a brief period of two or three centuries. Although a considerable amount of pottery has appeared from this second period of occupation on the west and the north of the site, no house walls or floor levels have as yet been distinguished.

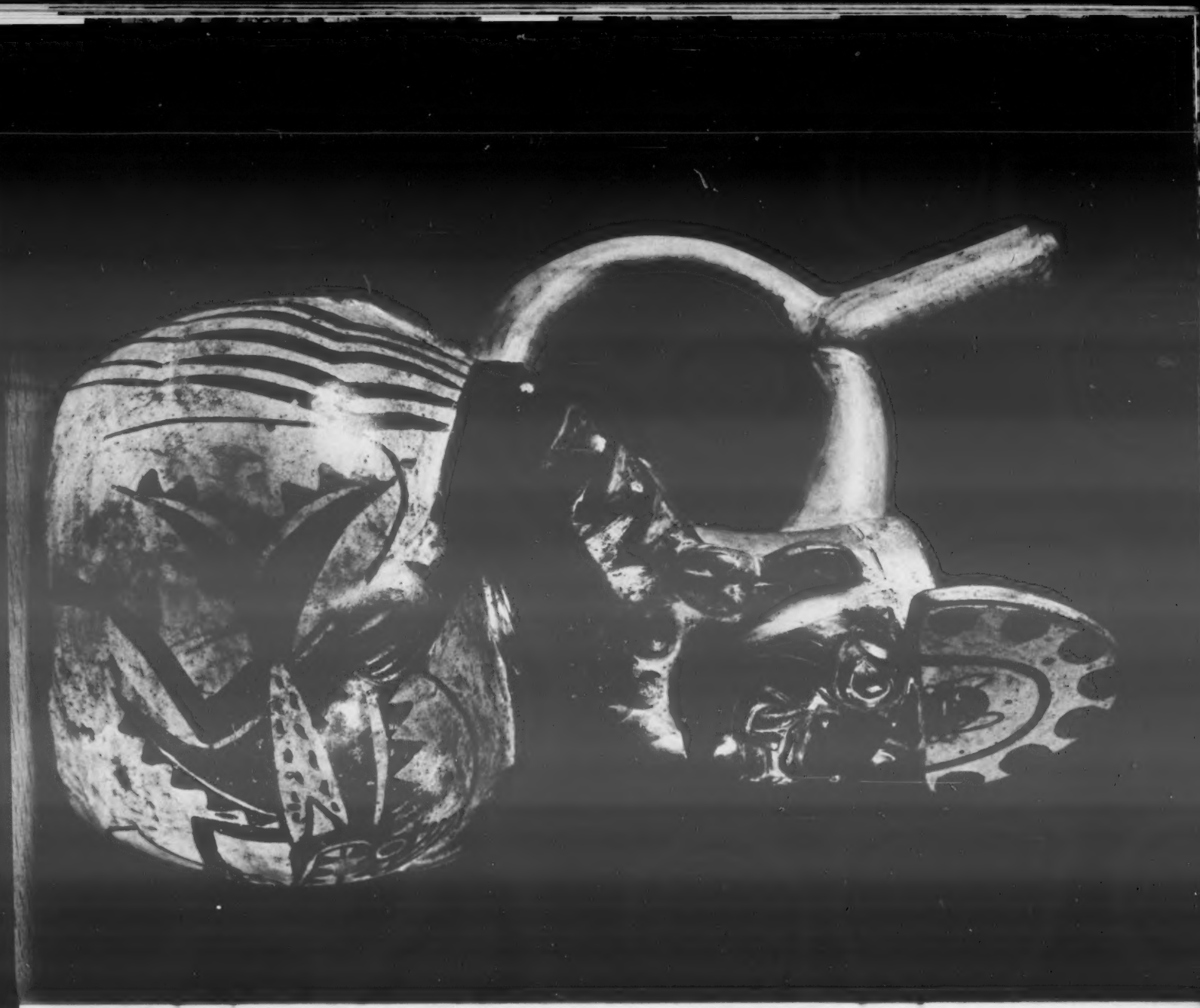
At the beginning of the Iron Age, about 1200 B.C., Gibeon was resettled. It seems probable that it was first encircled by a city wall which was 11 feet in width, built on the edge of the rock scarp of the natural hill. Later in the Iron Age the city was enlarged by the moving of the city wall outward on the north so as to include a larger area, and the water resources were increased by the cutting of another tunnel which ran from inside the city wall through the rock of the hill to the most copious spring which flows from the base of the mound. To judge from the wear on the 93 steps of this tunnel, the later hydraulic installation was much more successful than the earlier, more ambitious cutting of the pool and stairwell, where the steps display little evidence of wear.

In the Iron II Age the city reached its peak of prosperity. In the eighth and seventh centuries it was a thriving commercial center. Something of its economic importance is indicated by a total of 95 stamped jar handles which have already been found; 88 of them bear the royal stamp and seven various private stamps.

Following the destruction or abandonment of the city at the end of the seventh century the evidence for occupation during the Persian period consists principally of a gold ring which had been dropped into a crevice of the demolished Iron Age city wall, a silver ring inscribed with the letters *l m r t sh m n,* and five *mṣh* stamps on handles.

During the first century B.C. there was a considerable settlement at Gibeon. The great pool and stairwell were filled in. Plastered basins were made for baths. Some of the vats of the once thriving wine industry were left covered over or were plastered and reused as cisterns. Others of them were enlarged during the Roman period and used for a columbarium and for an elaborately decorated tomb.

One very promising area for excavation was a large field free of trees and houses on the highest part of the hill. Could not this have been the site of the "high place" at which Solomon is reported to have sacrificed? On digging here we found no ancient walls but only fragments of ancient pottery in a most puzzling stratification. Near the surface was pottery of the Early Bronze Age and below it fragments from a period two thousand years later. After we had cleared about five feet of soil from this area we found a clear answer to the confusion in the evidence. A three-inch unexploded British shell and Turkish gun emplacements made it clear that this was the place in el-Jib where the Turks had held out for six weeks against the attacks of the British during Allenby's campaign for Jerusalem. Thus the latest occupation robbed us of valuable evidence on an important part of the ancient biblical city.



# A MOCHICA DEITY

*By* ALFRED KIDDER, II

*Photographs by Reuben Goldberg*

This modelled stirrup-spouted vessel, painted in dark red on cream, is the Museum's most recent acquisition in the field of pre-Columbian Peruvian art. It was presented to us posthumously by Mrs. George Smith Patton, Jr. through her daughter, Mrs. James Totten.

The Mochica people, who buried thousands of vessels of similar style with their dead, lived in the rich, irrigated valleys of northern coastal Peru in the early centuries of the Christian era. Their pottery is unequalled in the Americas in the realism and vigor of its depiction of every imaginable aspect of their material and spiritual world. Here is shown one of their favorite subjects, a supernatural being, perhaps their principal deity. He appears in many guises, but is always recognizable by his protruding fangs, attributes of the jaguar or the puma. In this case the feline motif is repeated as a small cat head painted on his headdress, but he is mainly in the form of a crab with human hands and small human legs in addition to his ten crab legs. Modelled serpent heads on his earrings and on the middle of his back add another element to this composite being, combining human, feline, crustacean, and serpentine attributes in a symbol of power that was of obviously great importance to the Mochica people.

The composite deity fishing with a hand line has caught the Fish Demon, an enemy with whom he is pictured in combat. The Fish Demon, like the fanged deity, has human limbs and always carries a large knife. This scene, and many others in which the fanged god confounds his demonic enemies, must have been the subject of a rich mythology, long since forgotten. The Mochica, however, have left us considerably more evidence of how they imagined their supernatural world than have most Indians from the archaeological past.

The First in a Series on
EXPEDITIONS AROUND THE WORLD

# What the British are Doing

*By* WILLIAM C. BRICE

*This article is the first of a series planned for* Expedition *to give our readers some knowledge of what other nations are doing in anthropology around the world. Studies in archaeology, ethnology, and human paleontology are now proceeding at an unprecedented rate in many regions, many of which were little known prior to the last war. We hope that these articles will give the reader a general idea of the significance of such research and also some understanding of the great questions in the study of man still to be answered by the anthropologist.*

In the study of archaeology and ethnology, which are concerned with the characteristics and distribution, past and present, of the major groups of mankind, the science of physical anthropology must always make the basic contribution. At present there is a feeling in Britain that the traditional methods of this discipline are inadequate by themselves. In the field of human palaeontology, for example, as Sir Wilfrid Le Gros Clark has lately made clear, the crucial evidence is too recent to fit to the geological time scale, but too early for dating by the method of Carbon-14 content. Consequently, new ways of estimating the age of skeletal remains are being devised. Of these, one which is being tried in the deposits associated with Australopithecine remains in Transvaal involves the microscopic inspection of sand particles at various levels, to deduce the different climatic conditions under which they accumulated. But of more general application and importance are the various new means, largely developed at the British Museum (Natural History), for estimating the relative antiquity of bone, by fluorine analysis, by uranium estimation, and more recently by protein (nitrogen) assay. The Piltdown skull, the Kanam mandible, and remains from the Sharbauer site in Texas have been subjected to such techniques, and the Swanscombe skull is being investigated afresh with the aid of the right parietal bone found in 1955.

Further recent finds are a forelimb of *Proconsul africanus,* studied by Dr. J. R. Napier and Dr. P. R. Davis, and a skull of Australopithecine type from Tanganyika, just announced by Dr. L. S. B. Leakey. In the realm of theory, Sir Wilfrid Le Gros Clark's plea for a simplification of nomenclature and an acknowledgement of established evolutionary principles has effected a healthy clarification.

Physical anthropology is now much concerned with the processes by which human races become distinguishable. Work at Oxford particularly has shown that many of the standard racial characteristics of the older anthropology, stature, head-form, and the like, are somehow correlated with environmental features. But the complicated genetic basis of these characters makes them too difficult for use at present in research into the problems of selection. Instead, most attention is being paid to factors of the blood, whose inheritance is more simple to understand. The main questions under debate are: what are the selective advantages of the various blood-groups and abnormal haemoglobins? how permanent are the blood characteristics in a population? and how do demographic conditions influence the rate of selection or genetic drift?

It is now almost certain that every inheritable character of the blood is connected with liability to some disease; though it is not yet known in every case what this disease is, or even whether the relation is causal or incidental. In Britain at any rate, the selection of blood factors seems to operate very slowly, in which case their distribution must be relatively stable. Some have been so bold as to correlate the regional differences in blood-group frequencies, revealed by the

National Blood Transfusion Service, with past ethnic movements—the higher percentage of group A in Eastern England, for example, with Anglo-Saxon colonisation. But in general there is caution in drawing ethnological conclusions from blood data. The field work of Dr. D. F. Roberts in the Sudan and Northern Nigeria, combining the study of blood features with that of demographic conditions, has already demonstrated one profitable line of research, in which social anthropology could help. Meanwhile the haptoglobins are being studied as possible extra indices of racial distinction, and the British Museum (Natural History) has started serological work on ancient bone and mummified tissue.

The Blood Group Reference Laboratory of the Medical Research Council performs most testing, while the Nuffield Blood Group Centre is largely concerned with statistics. Working closely with the National Blood Transfusion Service, and also with researchers in other countries, it is coming to function as the world coordinating centre for all population studies relating to the blood groups and other genetically simple characters.

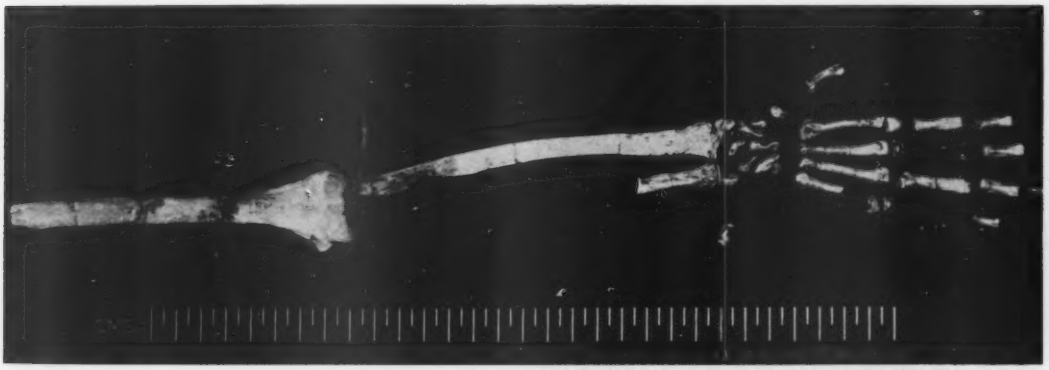
Archaeologists too are experimenting with new techniques of discovery, of dating, and of analysis. Following the use of the military mine-detector in tracing buried objects, the more sensitive proton magnetometer has been developed for similar purposes by the Research Laboratory for Archaeology and the History of Art at Oxford. This instrument has had success in tracing pottery kilns and the sunken pits of Iron Age encampments.

PHOTOGRAPH COURTESY OF THE BRITISH MUSEUM (NATURAL HISTORY)

*Rear view of the Swanscombe skull, showing the newly discovered right parietal bone.*

The same laboratory, the first issue of whose annual, *Archaeometry,* appeared in 1958, has experimented in dating objects by the orientation of their magnetic particles. This procedure is still experimental, but its reliability has been vindicated by work on sets of early Chinese pottery of known antiquity.

Dating by pollen analysis is a technique particularly appropriate to the raised bogs of Eire, where the Department of Irish Archaeology of Trinity College, Dublin, under Mr. G. F. Mitchell, which has recently excavated at Lough Gur and Dalkey Island, is particularly active in the important field of geochronology. In Ulster, the Nuffield Quarternary Research Unit has found conditions good not only for pollen analysis, but also for the study of fossil soils, and a

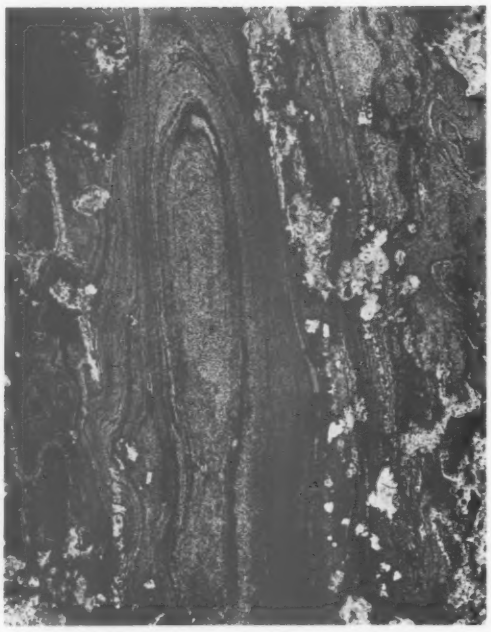


PHOTOGRAPH COURTESY OF DR. J. R. NAPIER AND DR. P. R. DAVIS

*The forelimb of* Proconsul africanus, *recently discovered in Kenya.*

COURTESY OF DR. V. B. PROUDFOOT

*Aerial view of the deserted clachan at Murphystown, County Down, recently investigated by the Clachan Research Group of the Queen's University at Belfast. In the upper part of the picture can be seen traces of the strips of the old open field.*



COURTESY OF THE PITT RIVERS MUSEUM, OXFORD

*Photomacrograph of a steel spearhead of the sixth century B.C. from Deve Hüyük, Syria; the contorted piled structure indicates forging from a large number of carburized plates.*

COURTESY OF PROFESSOR A. C. O'DELL

*Silver object, possibly scabbard or buckle chape, from a Dark Age Treasure hoard from St. Ninian's Isle, Shetland.*

scheme at Goodland, County Antrim, has succeeded in estimating the rate of soil and pan formation by the age of their archaeological contents. The Department of Environmental Archaeology in London has done much pioneer work in this field, and from here has come recently a manual of the subject, Dr. J. W. Cornwall's *Soils for the Archaeologist.*

Spectroscopic analysis has been used in Britain for some time for identifying the raw material of stone axes, as has chemical analysis for determining the composition of early bronzes. But the inspection by radiography and microphotography of iron tools is a new departure. H. H. Coghlan's *Notes on Prehistoric and Early Iron in the Old World,* published by the Pitt Rivers Museum at Oxford, describes experiments which have established the antiquity of the technique of producing a steel by piling and forge-welding thin laminations of carburized iron.

That technical ingenuity can still achieve much, even with the most familiar archaeological material, has been shown at Stonehenge. Professor R. J. C. Atkinson has discovered

unsuspected carvings on some of the uprights by means of careful photography; a party of Boy Scouts has tested the mobility of facsimile megaliths; and Ministry of Works mechanics, under the direction of Professor Stuart Piggott, have re-erected some of the collapsed trilithons.

Modern British archaeology lays great store by the study of environment. Professor J. G. D. Clark of Cambridge has often stressed the need for this in prehistoric research; but its significance is more obvious and its pursuit more easy in the increasingly popular field of Dark Age and Mediaeval archaeology. Doubtless the wider publication of aerial photographs has helped here. J. S. P. Bradford, who has worked devotedly for the preservation and study of aerial documents, has recently written a manual about their use, *Ancient Landscapes,* while M. W. Beresford and J. F. S. St. Joseph have composed an aerial survey of Mediaeval England.

The Deserted Mediaeval Village Research Group, with largely amateur help, has resurrected significant fragments of forgotten English landscape; while in the Celtic West, old theories about traditional forms of land tenure are being drastically revised, notably through the work of Professor E. Estyn Evans of the Department of Geography at Belfast and his adjutants, Dr. V. B. Proudfoot and Dr. R. H. Buchanan. In particular, they have thrown new light on the architecture, the antiquity, and the economy of a type of rural settlement known as the clachan, an irregular cluster of farmsteads, occupied by tenants who were often blood relatives, and who tilled the land jointly. On the Sands of Forvie near Aberdeen, Mr. William Kirk, also a geographer, has demonstrated the close connection, over a period extending from late Neolithic to Mediaeval times, between a changing environment and changing patterns of settlement.

The Council for British Archaeology has since 1943 stimulated and guided the growing volume of largely amateur interest in this subject. In Jersey there have been stratified excavations on the Neolithic site of Le Pinacle, but field work is at present suspended at the famous Palaeolithic station of La Cotte de St. Brelade. Various promontory forts are being uncovered in the Isle of Man, and excavations continue at Roman stations such as Verulamium near St. Albans and Cirencester, and at later sites as widely separated as Glastonbury, Iona, and the Shetlands. In this last area, a party led by Professor A. C. O'Dell of Aberdeen has discovered a spectacular cache of Dark Age ornamental silverware on a sacred site on the Isle of St. Ninian.

The main current work of the British School of Archaeology at Rome, under Mr. J. Ward Perkins, is designed, like much of the most adventurous archaeological research in Britain, to combine excavation with environmental studies. It is concerned with the historical geography of Southern Etruria, and will take the form of a survey of the antiquities of all periods over an extensive area just north of Rome, and of a study, with the aid of pollen samples from crater lakes, of the nature of the primitive forest cover. From this will appear the successive patterns of settlement in the setting of the natural environment. The School at Rome is also co-operating in the publication of the great Severan buildings of Leptis Magna, and of the Christian antiquities of Cyrenaica.

The British School of Archaeology at Athens is currently at work, under its director, Mr. Sinclair Hood, around Knossos, where the main excavation, by the Royal Road, is providing a check on the stratigraphy of Arthur Evans. The cutting here goes down to Neolithic levels, which are being explored in the Palace area by Mr. John Evans. On the mainland, Lord William Taylour is doing exploratory trials in Laconia.

There will be no work this season at the major site of the British School of Archaeology in Jerusalem, Dr. K. Kenyon's Jericho, nor at that of the British School in Iraq, Professor M. E. L. Mallowan's Nimrud. Definitive reports of both excavations are being prepared. The British School of Archaeology at Ankara, directed by Mr. Seton Lloyd, is about to return to the clearance of the Middle Bronze Age palace at Beycesultan. In recent years, these three sites have provided monumental contributions to knowledge respectively of the earliest agricultural settlements of Palestine, of the art and economy of Assyria, and of the culture of Western Anatolia in the second millennium B. C.

In addition to these major works, there are a number of smaller British enterprises in the Near East. In Jordan, Mr. P. J. Parr has cleared Nabataean and Roman buildings at Petra, and nearby, Miss Diana Kirkbride has investigated a Mesolithic and Neolithic site; Dr. Dorothy Garrod has carried out Palaeolithic excavations in Lebanon; Mr. Alan Rowe is publishing his recent work on a Hellenistic necropolis in Cyrenaica; Professor John M. Cook and Mr. George E.

PHOTOGRAPH BY H. M. ROGERS

*Cregneash Open-air Folk Museum, Isle of Man, a branch of the Manx Museum and National Trust. The museum consists of the group of four thatched buildings on the right and the white building in the centre. It was the first public open-air folk museum in Britain.*

COURTESY, DR. BASSETT MAGUIRE, N. Y. BOTANICAL GARDENS

*Dr. Audrey Butt, of the Pitt Rivers Museum, Oxford, at Kataima, a village of the Akawaio Indians of British Guiana, showing how cassava is squeezed to extract the poisonous juice.*

COURTESY OF MR. SETON LLOYD

*Reaching chalcolithic levels in the deep sounding at Beycesultan, Turkey, 1958.*

Bean are carrying forward thorough explorations of early Greek sites on the Aegean shore of Asia Minor; Mr. J. Mellaart has made important soundings in the chalcolithic mound at Hacilar in Southern Phrygia; Mr. and Mrs. Michael Gough are continuing their work on early Christian sites in Cilicia, and the Walker Trust's expedition is restoring frescoes in the church of S. Sophia at Trebizond; Professor Storm Rice is clearing further the Omayyad mosque at Harran; Mr. Charles Burney is exploring in Eastern Turkey and Azerbaijan for more Urartian sites; Mr. David Oates has uncovered a Roman fort at Ain Sinu near Mosul; and Mr. T. Burton-Brown has carried out soundings with significant results in an early mound near Karaj in Northern Iran. Somewhat further afield, Professor F. E. Zeuner, after a study of the Stone Age in Northern Arabia has turned to an investigation of the early immigrations into the Canary Islands; while Sir Mortimer Wheeler has directed for the Pakistan Government the first stages in the new exploration of the great mound of Charsada near Peshawar, which was occupied through Achaemenid, Hellenistic, and Gandhara times.

By comparison with Western Asia, Africa south of the Sahara presents a much fresher field for archaeology. Here the frontier between prehistory and history is much more recent than in Eurasia, and experience in other continents can give little help with special problems of chronology and field technique. These difficulties were faced at the two conferences on History and Archaeology in Africa, held at the London School of Oriental and African Studies in 1953 and 1957.

In Nigeria, Mr. Frank Willett, working at Ife, has discovered important new terracottas and bronzes, and has added considerably to what little was known of the stratigraphic context of such objects; rock paintings have been discovered in the Kano-Bauchi area; and Mr. Bernard Fagg has described a widespread rock-gong complex. Besides the Nigerian Department of Antiquities, the Yoruba and Benin Historical Research Schemes are sponsoring much long-term work.

Professor P. Shinnie of the University College of Ghana is exploring the antiquities in the area of Lake Chad; and the early history of the coast of East Africa, one of the few zones where links can be made with other continents, is becoming clearer. The foundation of a British School of History and Archaeology in East Africa has been mooted.

Two notable cave explorations within the tropics are that of Mr. Adrian Digby and Mr. A. H. Anderson at Las Cuevas in the interior of British Honduras, which has illuminated the late Maya decadence; and that of Mr. Tom Harrisson at Niah in Sarawak, where the stratification descends to the Middle Palaeolithic.

British ethnographic work, which a generation ago was often carried out by administrators, missionaries, and soldiers, is now almost entirely professional and under the control of the various university departments of social anthropology. Much of it, and especially that sponsored by the Colonial Office, is pursued in Africa; but there is a growing interest in Southeast Asia, in the Middle East, and in the West Indies. Less is done in South America, though Dr. Audrey Butt of the Pitt Rivers Museum has carried out a notable study of the remote Akawaio of British Guiana.

It is common now for ethnographers to look to one aspect of the life of a community, its legal system for example, its religion, or its economy. While this concentration doubtless adds to the value of such studies for academic theory and for administrative guidance, future ethnologists who will turn to them for information may regret the opportunities missed for making wider records, especially of material culture. Even in Africa, there may not be much time left for studying traditional crafts in a live setting.

Britain, of course, has reached the stage where the ethnologists and folk-lorists, recovering traces of a past only recently but very thoroughly fossilized, have virtually no point of contact with the anthropologists, striving to keep pace with frantic social change.

The activities of both are expanding. The Manx Museum founded its open-air branch, the first in the British Isles, at the village of Cregneash in 1938, with the fresh idea of dispensing with formal labels and retaining equipment in its natural setting. The Welsh Folk Museum at St. Fagans Castle near Cardiff was begun in 1946, the Museum of English Rural Life was founded at Reading some five years ago, and the Ulster Folk Life Museum has just been opened in Belfast. The Manx Folk Life Survey, the School of Scottish Studies, the Irish Folk Lore Commission, the Committee on Ulster Folk Life and Traditions, the Folk Lore Society, and more local organisations like the Oxfordshire Folk Lore Society are all doing rescue work, largely with amateur help, especially from schools.

COURTESY OF MR. WILLIAM FAGG

*Terracotta head excavated at Ife in January 1958. About two-thirds life size.*

The social anthropologists at work in Britain are turning progressively to work of a diagnostic nature, often in collaboration with other disciplines. Of this kind are the various investigations of the problems of coloured minorities, Miss S. R. Burstein's studies of the social difficulties of old age in different settings, a Medical Research Council project under a medical specialist (K. Rawnsley) and a social anthropologist (J. Lowden) for investigating the epidemiology of mental disorder in the Rhondda and the Vale of Glamorgan, an inquiry conducted by The Aberystwyth Department of Geography and Anthropology under Professor E. G. Bowen into the absorption of immigrant foresters into Welsh rural society, and a scheme based on Manchester for research in Leigh, a prosperous middle-class Lancashire town. The Department of Social Anthropology at Edinburgh, under Dr. K. L. Little, has lately done similar co-operative work in a mining town of Sierra Leone. Such undertakings, designed to help with immediate problems, may prove to have a wider theoretical import, and will doubtless in course of time acquire interest as ethnological records.

# The Clue of the MISSING FEET

*By* RHYS CARPENTER

*In 438 B.C. there was dedicated in the Parthenon at Athens the colossal gold and ivory statue of Athena, one of the major works of Pheidias, commissioned by Pericles. Of this majestic statue, over forty feet high, the cult image of the goddess for nearly a thousand years, only a few copies in other materials, of moderate or miniature size, have hitherto remained to give us an impression of the fascination the original held for the ancients. Mr. Carpenter's identification of the Pitcairn Nike as a full size copy of the figure of Victory which was shown symbolically alighted on the hand of Athena brings us in scale and in visual impact within view of one of the great glories of the ancient world.*

*Photographs by Reuben Goldberg*

Until the nineteenth century, broken statues surviving from Greek or Roman times were very generally restored to respectable sculptural status by having their missing parts supplied at the discretion of some restorer. Thus, the Aeginetan Marbles from the pediments of an early fifth century Greek temple were very skillfully (and quite disastrously) restored some hundred and fifty years ago by the famous sculptor Thorwaldsen. However, the Elgin Marbles, which were brought at much the same time to London, suffered no such "improvement" and, except for occasional cleaning, may still be seen in the same state in which they were removed from the Parthenon. Since then, it has been an unwritten law that Classical antiquities must not be altered by modern hands.

Nevertheless the professional student of Greek sculpture continues to restore the broken statues which come to his attention. Naturally, he cannot do this in physical actuality of added marble, but performs the feat mentally (which is not very reliable), or by sketches on paper (which is somewhat better), or by a fully carried-out reconstruction in plaster (which is by far the best method—if he is up to it!). Such exploratory reconstructions very generally have to amend routine losses through fracture and contusion incurred centuries ago when the statue was overturned from its pedestal. But there are also problems of another sort, where a statue had originally been put together out of separately carved pieces, some of which have been lost. This is the class to which the large marble fragment belongs, which has for several years been on loan to the Museum from its owner, Mr. Raymond Pitcairn of Bryn Athyn, and is now conspicuously mounted on a lofty pedestal in the Classical Gallery.

At first glance a wreck of a figure, this piece will prove on closer examination to be virtually undamaged, with detail intact and surface in excellent preservation. Only (alas!), eight complementary pieces which once were attached have been lost beyond recovery. Their list comprises: a head and neck; two bare arms to the shoulders; *item,* a pair of wings (once bedded in the shoulder-blades and serving to prove that the figure is a Victory, or *Nike); item,* a bit of drapery attaching to the lower rear; and last (but as it turns out, by no means least) a pair of feet projecting from beneath the long trailing *peplos* gown.

It may be inferred from the various traces of the means by which these missing parts were once held in place that the right arm was lowered, that the left arm was sharply raised and extended forward, and that the wings were closed in back, not spread for flight. The head was erect and slightly bent forward. The feet—or, at least, as much of them as was visible—had been carved separately and pegged into position. And these, which may seem the least interesting element in the reconstruction, are actually its most informative clue.

A few years ago our statue was removed from its mounting in order to reset it in the newly arranged Classical Gallery; and at that time a curious and hitherto unappreciated detail was exposed. In the under side of the block there was a large square cutting in which the marble had been hollowed out to a depth of two and a half inches. This indicated that the statue had not originally been mounted in normal manner upon

a level pedestal, but elevated on some sort of standard or central support. The purpose of this may have been to raise the Victory aloft, as though she were in floating flight in the air; but the closed wings would be inappropriate to such an act, and the explanation takes no account of the separately carved and attached feet, which perfectly well and much more conveniently could have been cut in the marble block of the main body. It was further apparent that only the front half of the feet, from instep to toes, had been fashioned, as the large central cutting interrupted any further extension of them inward. In consequence, the entire weight of the statue must have been carried on the square central support, and none of it permitted to bear down on the lightly suspended projecting feet. There is only one plausible explanation for this seemingly unnecessary and troublesome procedure: *the feet could not have been made of marble,* because otherwise they would surely have been cut in one piece with the rest of the main block.

At various points on the surface of the statue there still adhere some tiny and barely discoverable patches of bright vermilion color. These do not prove that the Nike once wore a garment of brilliant red. The coloring matter is cinnabar, which is red sulphide of mercury (HgS in chemical terms) and possesses an affinity for gold which made it useful in antiquity as a binding medium for gilding bronzes. It was also employed in Roman times as a sizing for attaching gold leaf to marble. Our Nike, therefore, was once clad, not in red, but in cloth of gold. Of what, then, were the nude parts of her body if—on the testimony of the missing feet—these were not of marble? The golden drapery suggests an answer. The statue should be a copy in less precious materials from an original in gold and ivory, the medium known as "chryselephantine" and employed in the fifth and fourth centuries B.C. as a rare and costly resource for temple statuary of the gods. In the present instance, some such chryselephantine figure has been economically reproduced by substituting gilded marble for the solid gold plates of the draped portions of the original and replacing the yellowed ivory of the nude parts by some cheaper substance such as alabaster. (The wings may have been reproduced in thin wooden board, overlaid with gold leaf, or, less probably, added in gilded stucco.)

And here the plot thickens, since it is possible to guess what chryselephantine cult statue in what ancient temple has here been copied in alabaster and gilded marble.

The specialist in Greek sculpture can be fairly readily persuaded that, stylistically, the Pitcairn Nike is closely related to one of the Elgin Marbles and specifically to the running figure with wind-blown drapery from the left wing of the east pediment of the Parthenon, officially labelled "G," unofficially called Iris, and probably identifiable as the Greek birth-goddess Eileithyia. Many of the details in the rendering of the draped form are so similar that they force a conclusion that the chryselephantine original which our statue reproduced was an Attic work very little earlier than the Parthenon pedimental statues and, as such, dateable around 440 B.C. But in that case there is only one possible source for this Nike—the life-size gold-and-ivory Victory alighting on the outstretched hand of the colossal gold-and-ivory statue of Athena made by Pheidias and housed in her temple, the Parthenon.

A coin from the collection of the late E. T. Newell reproduces in miniature relief an almost contemporary version of this famous statue, judged to be a faithful replica erected early in the fourth century B.C. in the Asia Minor city of Aphrodisias (which issued the coin). Since the details of the statue in the Parthenon seem to have been scrupulously embodied in the pose and adornments of the standing goddess shown on the coin, the winged victory on her out-stretched hand should be equally faithful to its original. In order to find space for her in the circular medallion, the coin designer has tilted her forward out of balance; but otherwise she should give us a very exact picture of how the statue in the Museum is to be restored, with wings closed behind her back and an olive branch suspended between her lowered right and her upraised left hand. We can only guess vaguely at the appearance of her head and the features of her face, as the coin is too small and too poorly executed to give us much information on this score. But the missing block of drapery at the bottom rear of the statue not only can be supplied from the coin but can be restored by adopting, almost without change, the flowing curves of the Elgin Marble of Eileithyia.

So—or, at least, so in the opinion of the writer of this brief report—the Clue of the Missing Feet leads to the solution of a complicated mystery and confers unusual historic interest and great artistic importance on a statue in the Museum which (it may be hoped) will not hereafter be passed by without due deference. There is no other full-size copy of the Nike of the Parthenon.

## EXPEDITION NEWS

The 1959 season's work of all three of the University Museum Expeditions to the Near East was completed by early September. In this issue of *Expedition* there is a report by Dr. Pritchard of the results at el-Jib where he is Field Director; reports by Dr. Young on Gordion and by Mr. Dyson on Hasanlu will appear later.

At Gordion new techniques of exploration were furthered during the 1959 campaign by the use of an excavating machine called Allis-Chalmers HD-6 to cut a trench in the upper part of a big tumulus in the cemetery. The lower part had to be completed by hand for fear that the 9-ton monster might crash through the roof of the tomb; but as it turned out the roof had long since given way under the pressure of the stones and earth piled over it, and the contents of the burial were somewhat scattered and crushed. Twenty-three bronzes were recovered, however, including two cauldrons with bull-head handle attachments, also two very fine painted Phrygian vases. In the city the expedition cleared about three-quarters of the 1957 palace area including a very large chamber furnished with appropriate lavishness: numerous handsome painted vases were found, and the remains of wooden furniture carved in relief with processions of animals and decorated with inlaid ivory plaques.

Further excavation at Hasanlu in Iran has shown that the original top of the Citadel Mound was completely encircled by a fortification wall and that the Outer Town stretches around the northern flank of the citadel. The most recent occupations have now been definitely established as Islamic and Achaemenian; one of the earliest, a painted pottery level, is of the early fourth millennium B.C.; thus we have a time span for Hasanlu of at least five thousand years. Work has been continued on the Burned Building and across the courtyard from it, to the east, a similar structure has been found. Over thirty graves have been opened and a number of houses uncovered; notably, a well-built house of the Grey-Ware Period (1000-800 B.C.) with mud-brick walls and stone foundation, which the excavators have dubbed "The Artisan's House" because it contained some fragments of moulds and crucibles. A small sounding at nearby Dalmah Tepe has produced the oldest known pottery in Azerbaijan, dating back to around 4500 B.C.

*Pottery Effigy Vessel: Weary Warrior. From Peru. Mochica Culture, about A. D. 100*

One of the many reproductions of art and jewelry available through the University Museum Sales Department. These are exact duplicates of the originals in our collections; the plaster casts are made in our own workshop, the jewelry outside of the Museum but under our direct supervision. A catalogue is available; price fifty cents, prepaid. Write: Reproductions, Room 102, The University Museum, 33rd and Spruce Streets, Philadelphia 4.

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JAMES HOUSE, Jr. ("Tiwi Burial Poles as Sculpture"), sculptor and teacher, is constantly represented by his sculptures in wood in major exhibitions in the East and Midwest. To Philadelphians particularly he is also well known for his theatrical and political caricatures. Mr. House studied at the University of Michigan, the Pennsylvania Academy of the Fine Arts, and the University of Pennsylvania; and since 1928 has taught in the Studio of the School of the Fine Arts of the University of Pennsylvania which is located in the Museum. Using the Museum collections as background he demonstrates to his students his comprehensive interest in sculpture whenever and wherever produced and in the relationships of sculptural form to media-materials and to technologies. His concern is not with the idea of "beauty" in art but with vitality and the non-complex ordering of forms to attain directness. He believes that a study of anthropology provides a much needed perspective for understanding our own culture and art.

JAMES B. PRITCHARD ("Wine Industry at Gibeon: 1959 Discoveries") has been Professor of Old Testament Literature, Church Divinity School of the Pacific, Berkeley, California, since 1954. He obtained his Ph.D. degree at the University of Pennsylvania in 1942 and has been a Research Associate of the University Museum since 1950; in 1950-51 he was Annual Professor, American School of Oriental Research, Jerusalem. In addition to the excavation of Gibeon in 1956-59 where he is the field director, he has excavated at Bethel (1934), Dhiban (1950), and Herodian Jericho (1951). He is author, or editor, of a number of volumes on the ancient Near East, among them, *The Ancient Near East in Pictures, Archaeology and the Old Testament, Palestinian Figurines, Ancient Near Eastern Texts.*

ALFRED KIDDER, II ("A Mochica Deity"), Associate Director of the University Museum since 1950, obtained his Ph.D. degree from Harvard in 1937. From 1935 to 1950, except for service in the U. S. Army Air Force from 1942 to 1946, he taught anthropology at Harvard and was Curator of South American Archaeology at the Peabody Museum there. His interest is the archaeology of Central and South America, particularly of the Andean region. He has done field work in Venezuela, Honduras, Peru, and Bolivia. His reports on these excavations and other related articles have appeared in scientific publications. He is co-author of the recently published *Art of the Ancient Maya.*

WILLIAM C. BRICE ("Expeditions Around the World: What the British Are Doing") is University Lecturer in Geography at the University of Manchester, a position which he held from 1948 to 1951 and now since 1954. His studies at the School of Geography at Oxford, begun in 1939 and interrupted by service in the British and Indian Armies from 1941 to 1945, were completed in 1946. He assisted on archaeological expeditions at Mersin and Atchana in 1946-47, at Smyrna and Polatli in 1949, and at Harran in 1950. From 1951 to 1954 he was University Lecturer and Demonstrator in Ethnology at Oxford.

RHYS CARPENTER ("The Clue of the Missing Feet") is Professor Emeritus of Classical Archaeology at Bryn Mawr College with which he has been associated since 1913. He has been Professor in Charge of Classical Studies at the American Academy in Rome and Director of the American School of Classical Studies in Athens. One of the most eminent of scholars of the literature and archaeology of Greece, his exceptional versatility and command embraces such diverse subjects as *The Aesthetics of Greek Art; Folk Tale, Fiction and Saga in the Homeric Epics; The Sculpture of the Nike Temple Parapet;* and *The Greeks in Spain.* He is perhaps most at home in the field of Greek sculpture. To the enlivenment of this subject, his ingenuity and penetrating sense of style have made one of the greatest contributions of this generation.

## SUGGESTED READING

### THE TIWI DANCE FOR THE DEAD

(All of the following are by members of the National Geographic Society 1954 Expedition.)

C. P. MOUNTFORD, Expedition to the Land of the Tiwi, in *The National Geographic Magazine,* Vol. 59, No. 3. Washington. 1956.

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JAMES B. PRITCHARD, Discovery of the Biblical Gibeon, in *University Museum Bulletin,* Vol. 21, No. 1. Philadelphia. 1957.

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### THE CLUE OF THE MISSING FEET

RHYS CARPENTER, The Nike of Athena Parthenos, in *Archaiologike Ephemeris,* 1953-54, Part II. Athens. 1958.

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To the Readers of *Expedition:*

Because of the increased interest in archaeology and the study of man, The University Museum decided, in the spring of 1958, to revise its quarterly bulletin and issue a magazine which would be designed for the public as well as the members of the Museum.

The purpose was not only to create an outlet for the staff of the Museum in which they could report on their research in archaeology and anthropology but also to provide a means for the expression of their ideas concerning the motive and significance of these studies in contemporary society.

This current issue of *Expedition* is the first number of Volume 2. To the accounts of research and expression of ideas published in the first four issues, have been added articles on art, news about the Museum's far-reaching expeditions, and the writings of distinguished archaeologists and anthropologists from other institutions. The reaction to this new type of museum publication has been both gratifying and somewhat overwhelming. Members have written to us asking us to send gift subscriptions to friends and the number of subscribers has quadrupled in one year's time. A study of our subscription list shows that, in addition to the United States, we are sending copies of *Expedition* to subscribers in 15 foreign countries including Australia, Egypt, Formosa, Pakistan, the Philippine Islands, New Zealand, Russia, and Turkey.

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